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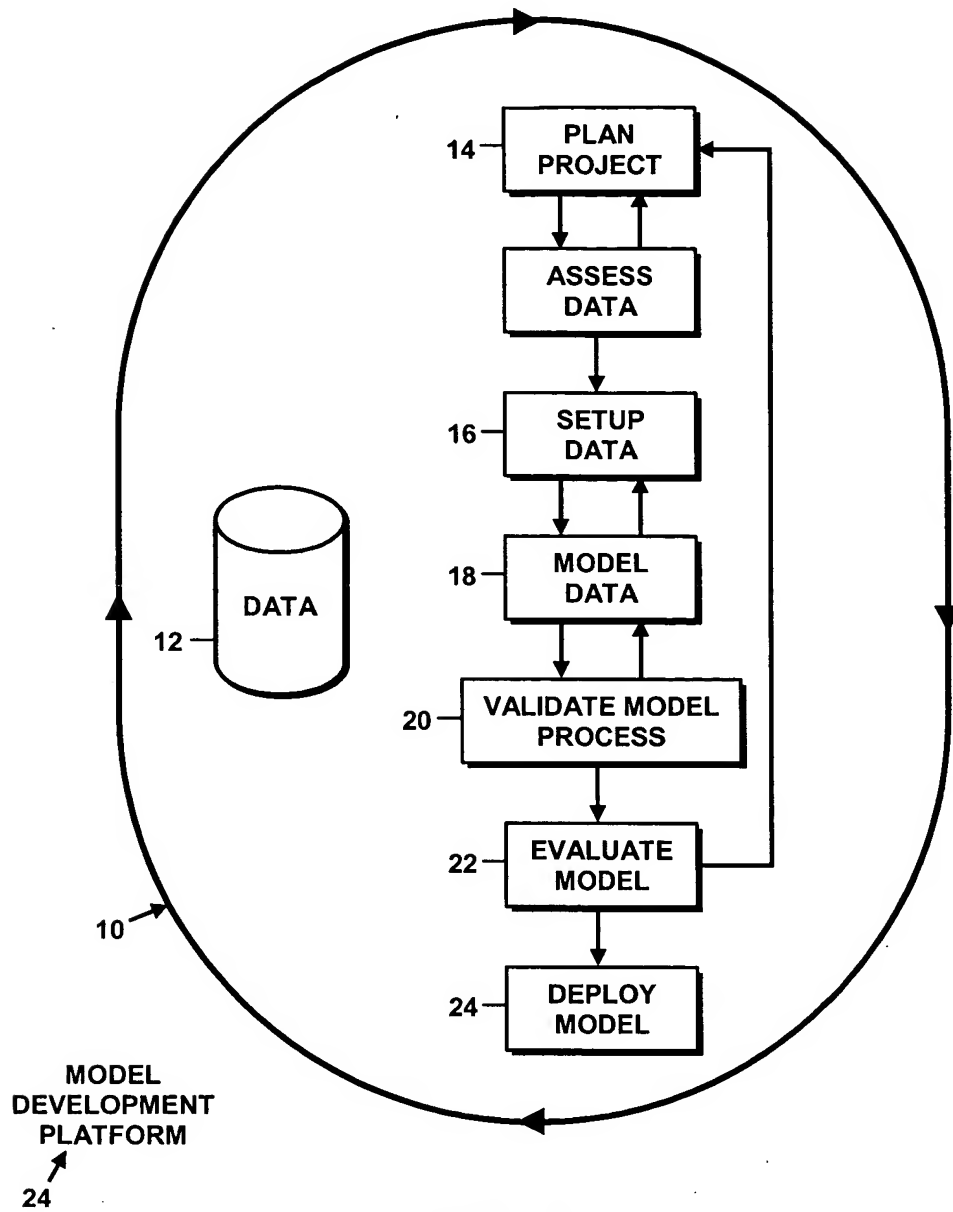


FIG. 1

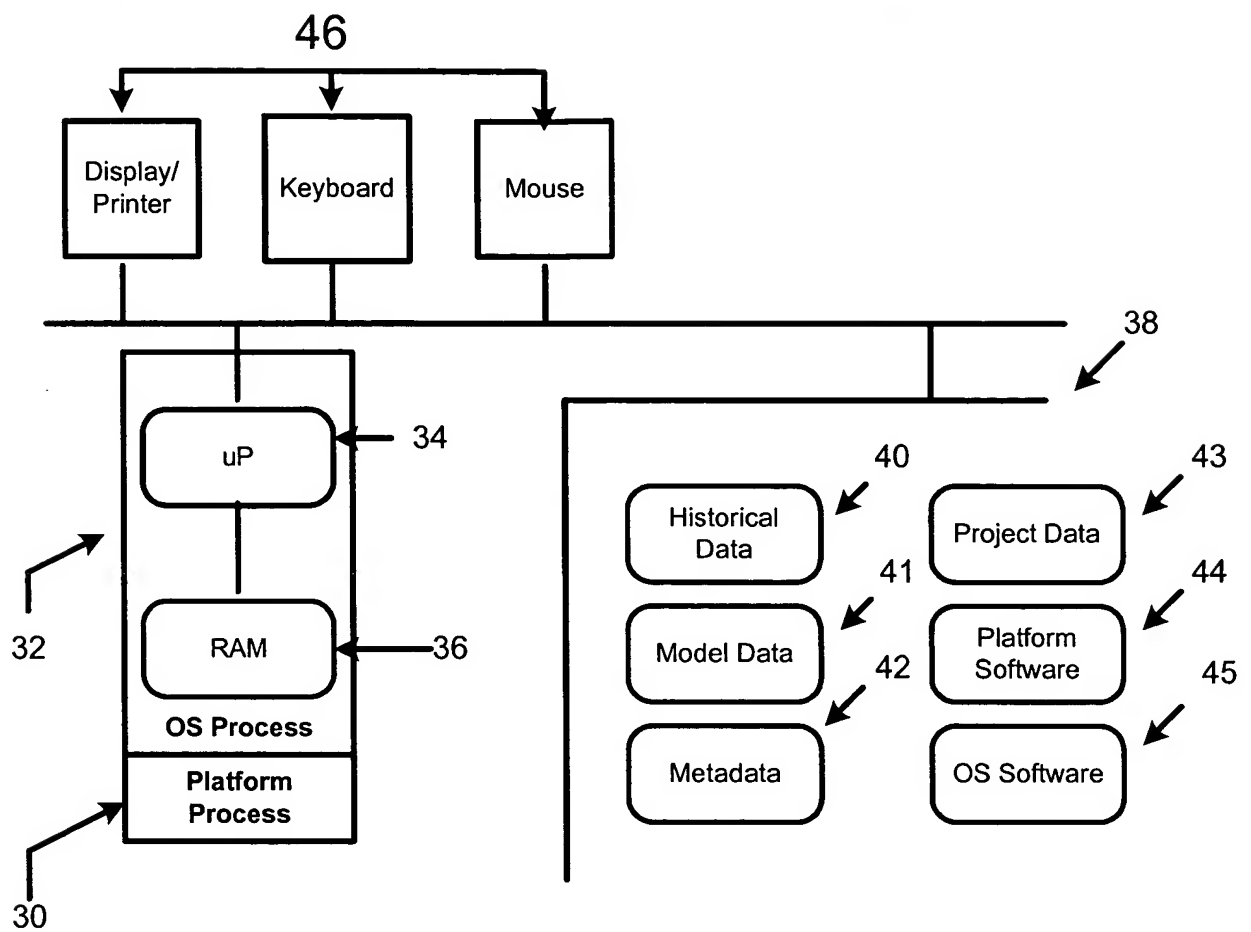


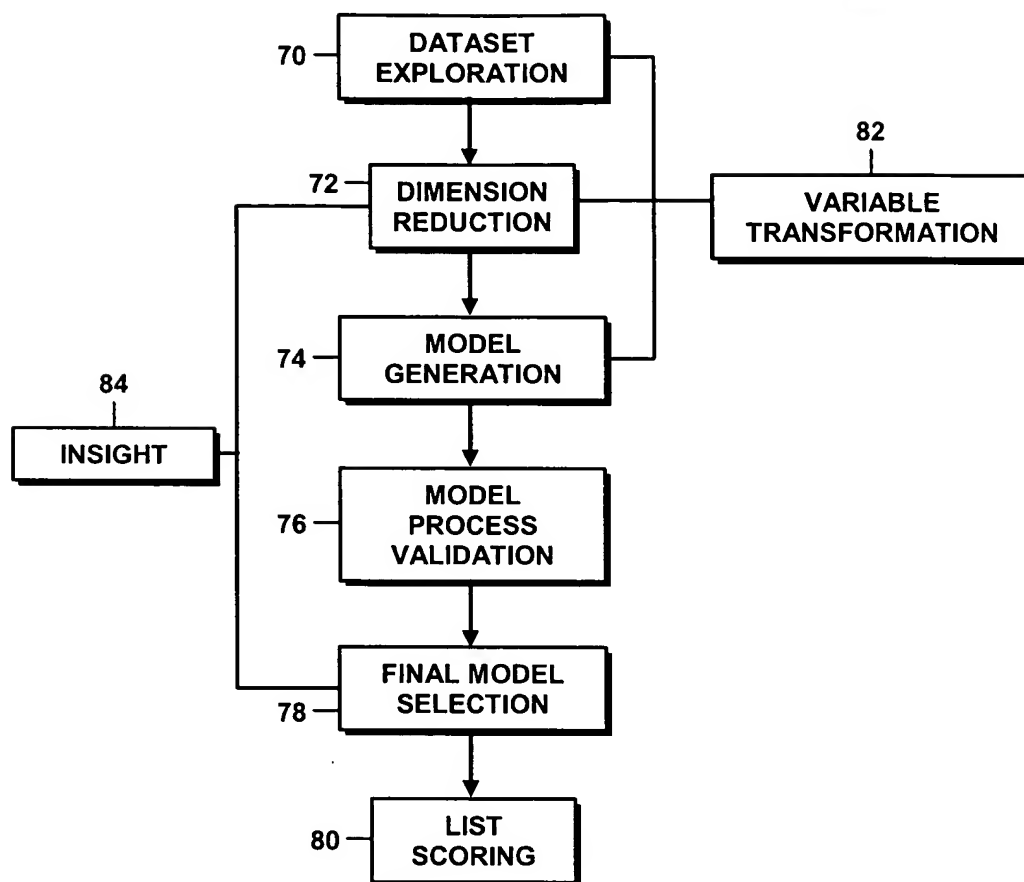
FIGURE 2

50

52

B. Model Projects Table			
	Field Name	Data Type	Description
<input checked="" type="checkbox"/>	ProjectID	AutoNumber	Unique Number indexing Model Projects
<input checked="" type="checkbox"/>	ProjectName	Text	Reference Name for Model Project
<input checked="" type="checkbox"/>	ProjectType	Text	Type of Model to be constructed (Response, Clone, Suppression, ....)
<input checked="" type="checkbox"/>	ProjectGoal	Text	Analyst-defined goal for current Model Project
<input checked="" type="checkbox"/>	ProjectBeginDate	Date/Time	Identifying Time Stamp for first use
<input checked="" type="checkbox"/>	ProjectEndDate	Date/Time	Last used Time Stamp
<input checked="" type="checkbox"/>	ProjectDataset	Text	Full pathname reference to Development dataset
<input checked="" type="checkbox"/>	ProjectDataDictionary	Text	Full pathname reference to metadata and Model status and data
<input checked="" type="checkbox"/>	ProjectLog	Text	Full pathname reference to log of Analyst decisions
<input checked="" type="checkbox"/>	DependentVariable	Text	Target variable selected for Model
<input checked="" type="checkbox"/>	ModelFitnessCriterion	Number	Desired c-index for Model set by Analyst
<input checked="" type="checkbox"/>	ModelPerformanceCriterion	Number	Desired zone of positive Model Gain set by Client
<input checked="" type="checkbox"/>	ModelPerformanceMonotonicityCriterion	Number	Desired level of Monotonicity
<input checked="" type="checkbox"/>	DevelopmentDatasetSize	Number	Total number of records in Development Dataset
<input checked="" type="checkbox"/>	PositiveOutcomes(%)	Number	Number of successful outcomes as a percent of Development Dataset Size
<input checked="" type="checkbox"/>	SampleSize(%)	Number	Size of Training Sample as a percent of total Development Dataset Size used for Candidate Model
<input checked="" type="checkbox"/>	VariableCount	Number	Initial Number of Predictor Variables
<input checked="" type="checkbox"/>	SampleDistribution	Hyperlink	Distribution of Predictor Variables: Graphs and Statistics
<input checked="" type="checkbox"/>	SampleByDistribution	Hyperlink	Distribution of Predictor Variables for Positive and Negative Outcomes
<input checked="" type="checkbox"/>	Interaction Tree	Hyperlink	Cross-validated Partition Tree for Key Predictor Variables
<input checked="" type="checkbox"/>	DimensionReductionMissingFilter	Number	Number of Predictor Variables Eliminated for Missing Variables
<input checked="" type="checkbox"/>	DimensionReductionCutoff	Number	Cutoff set by Analyst for Percent of Missing Values Acceptable
<input checked="" type="checkbox"/>	DimensionReductionMainEffects	Number	Number of Predictor Variables Retained for Main Effects
<input checked="" type="checkbox"/>	DimensionReductionMainEffectsCutoff	Number	Cutoff set by Analyst for Significance of Main Effects
<input checked="" type="checkbox"/>	DimensionReductionInteractionEffects	Number	Number of Predictor Variables Retained for Interaction Effects
<input checked="" type="checkbox"/>	DimensionReductionInteractionEffectsCutoff	Number	Cutoff set by Analyst for Significance of Interaction Effects
<input checked="" type="checkbox"/>	DimensionReductionVariableCount	Number	Number of Predictor Variables resulting from Dimension Reduction
<input checked="" type="checkbox"/>	CandidateModelChoice	Text	Model Type applied to Dimension Reduced Dataset
<input checked="" type="checkbox"/>	CandidateModelChoiceConstraint	Number	Retention Cutoff or Significance Level for Model Variables
<input checked="" type="checkbox"/>	CandidateModelResults	Hyperlink	Model Fitting Results
<input checked="" type="checkbox"/>	CandidateModelLiftChart	Hyperlink	Model Non-cumulative Lift Chart
<input checked="" type="checkbox"/>	CandidateModelPersistenceChart	Hyperlink	Model Persistence Chart for Key Variables
<input checked="" type="checkbox"/>	ValidationMethod	Text	Method Selected for Model Development Process Validation
<input checked="" type="checkbox"/>	ValidationMethodResults	Hyperlink	Model Application to Validation Dataset(s) Results
<input checked="" type="checkbox"/>	ValidationMethodLiftChart	Hyperlink	Model Validation Lift Chart
<input checked="" type="checkbox"/>	FinalModelResults	Hyperlink	Model Development Process applied to full Development Dataset Results
<input checked="" type="checkbox"/>	FinalModelLiftChartComparison	Hyperlink	Final Model applied to Sample and Validation Datasets for Cumulative Lift
<input checked="" type="checkbox"/>	FinalModelNonCumulativeLiftChartComparison	Hyperlink	Final Model applied to Sample and Validation Datasets for Non-cumulative Lift
<input checked="" type="checkbox"/>	FinalModelEquation	Text	Model Parameterized Equation using Model Transformed Variables
<input checked="" type="checkbox"/>	ScoringDataset	Text	Full pathname reference to Scoring File Input Dataset
<input checked="" type="checkbox"/>	DevelopmentScoringComparison	Hyperlink	Key Variable Comparison on Decile Basis
<input checked="" type="checkbox"/>	DevelopmentScoringDistributionComparison	Hyperlink	Propensity Score Distribution for Development and Scoring File (Subset)
<input checked="" type="checkbox"/>	ScoringResults	Text	Full pathname reference to Scoring File Output Dataset
<input checked="" type="checkbox"/>	InsightProfileMethod	Text	Method for Ranking Customer Insight Variables
<input checked="" type="checkbox"/>	InsightProfile	Hyperlink	Ranked List of Key Variables
<input checked="" type="checkbox"/>	InsightProfileChart	Hyperlink	Insight Chart of Key Variables Differential Contribution
<input checked="" type="checkbox"/>	FinalReportEntry	Memo	Final Report Description and Comments

FIGURE 3

**FIG. 4**

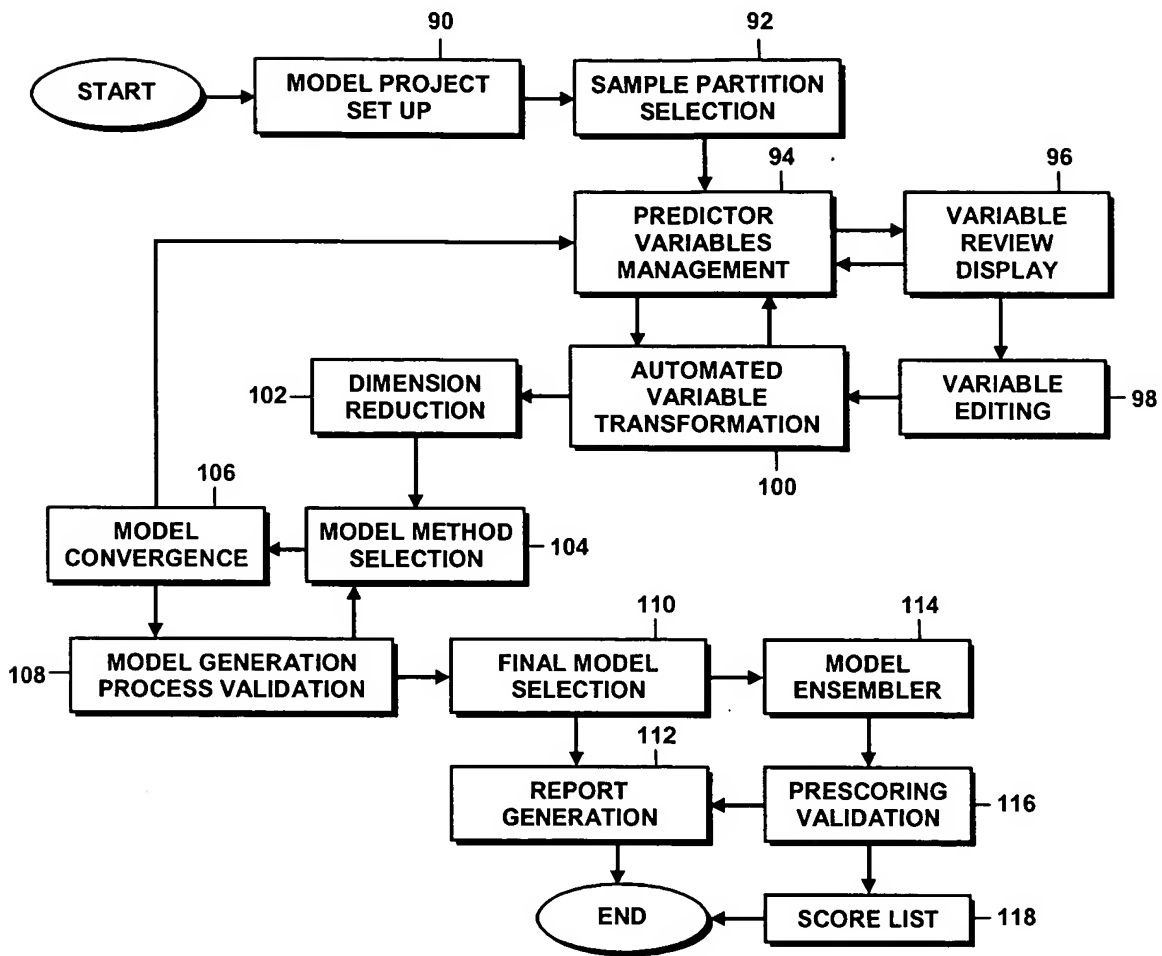
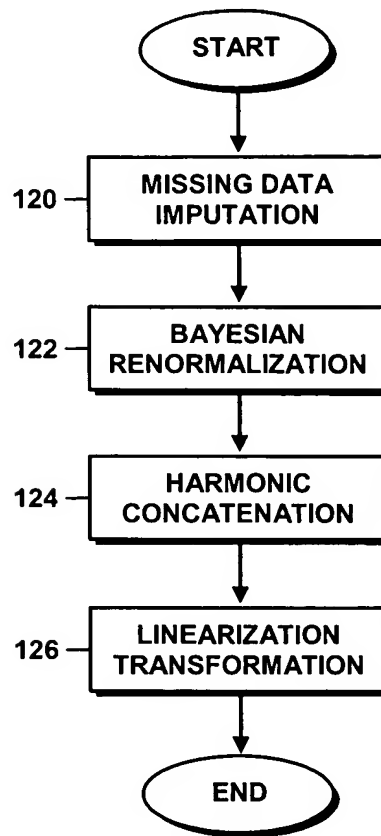
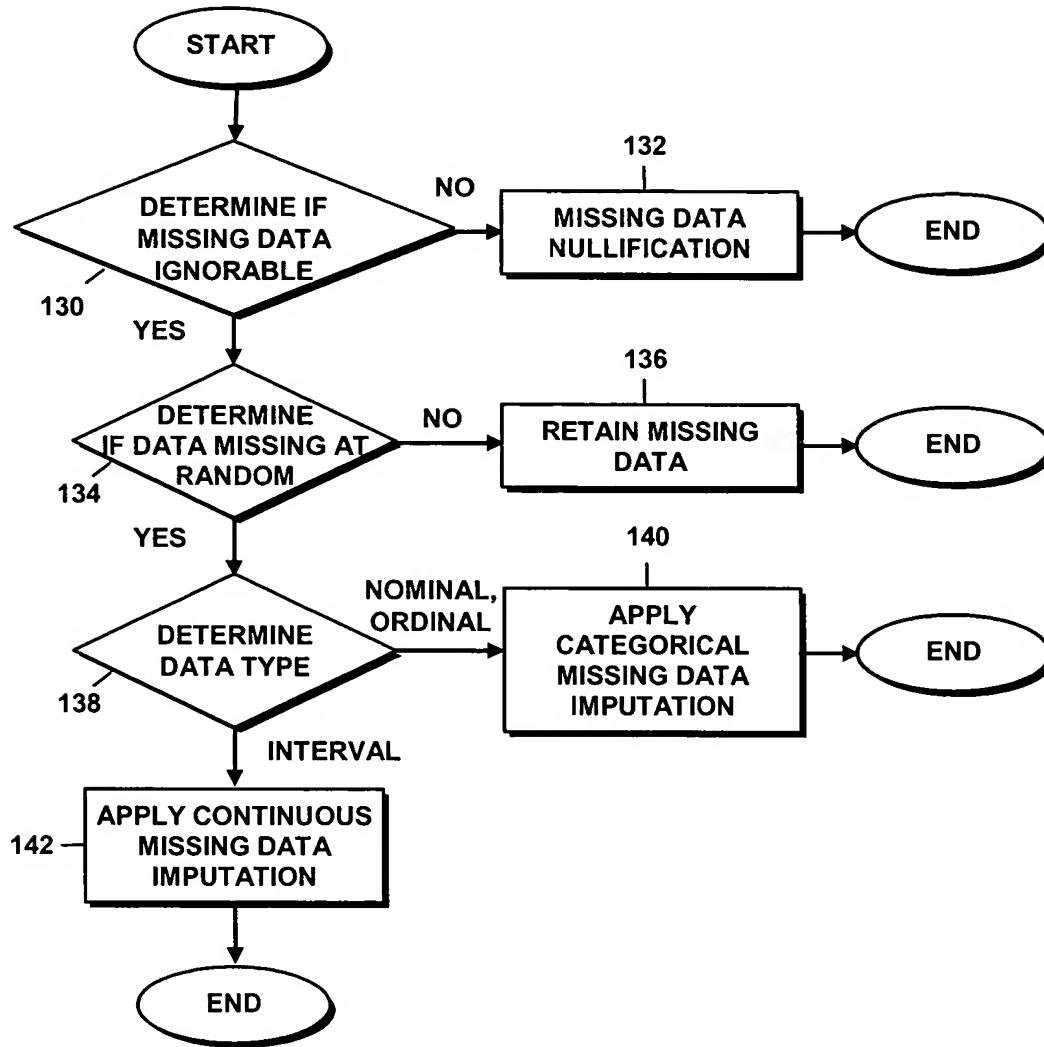


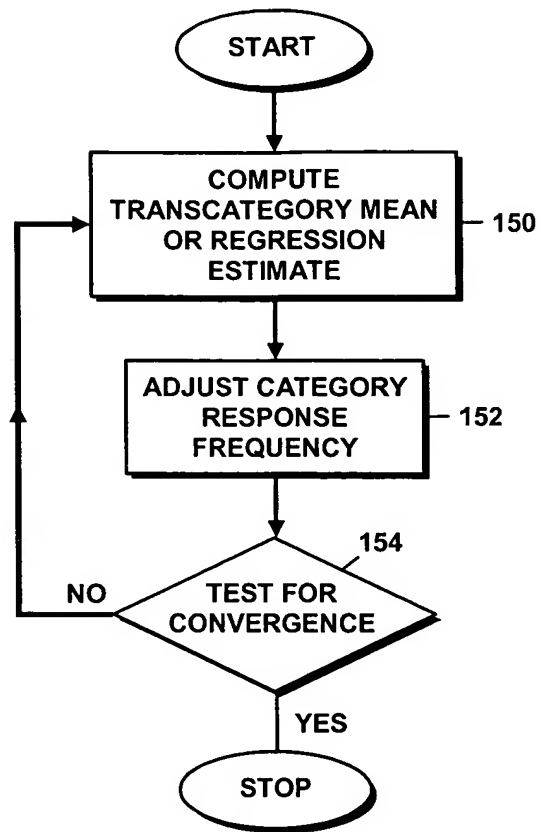
FIG. 5

**FIG. 6**

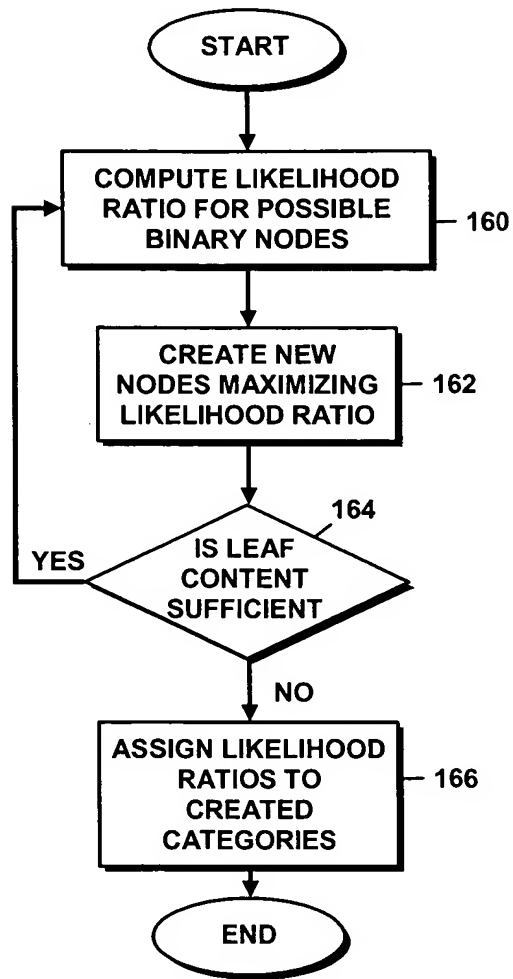


**FIG. 7**





**FIG. 8**

**FIG. 9**

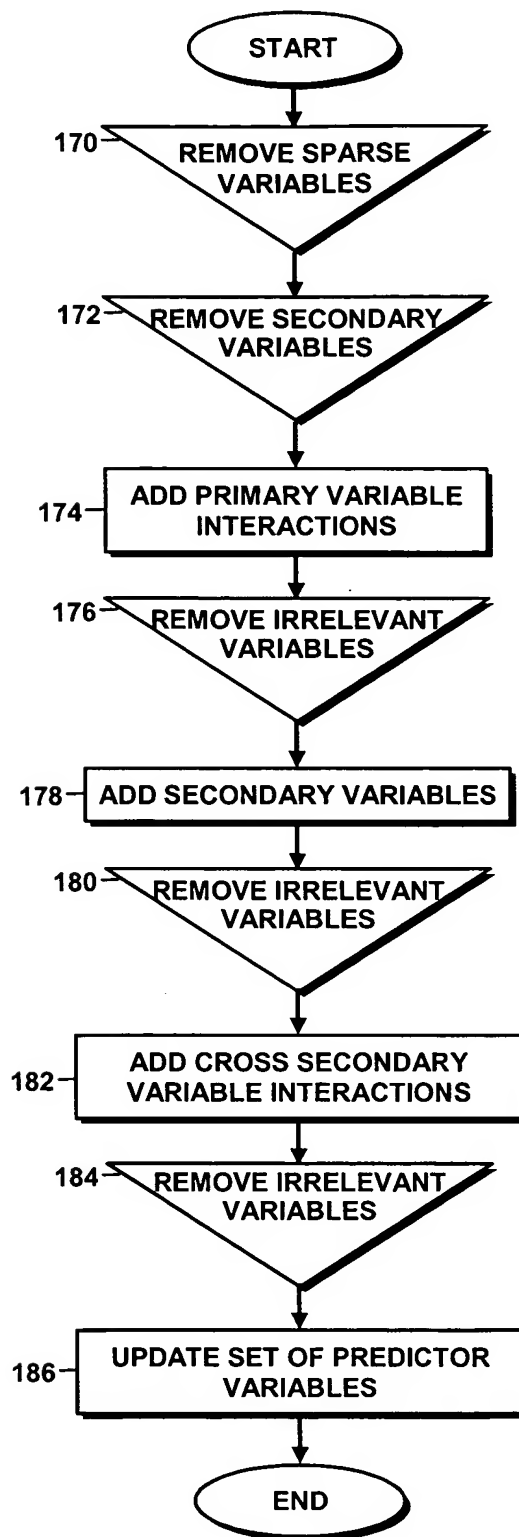
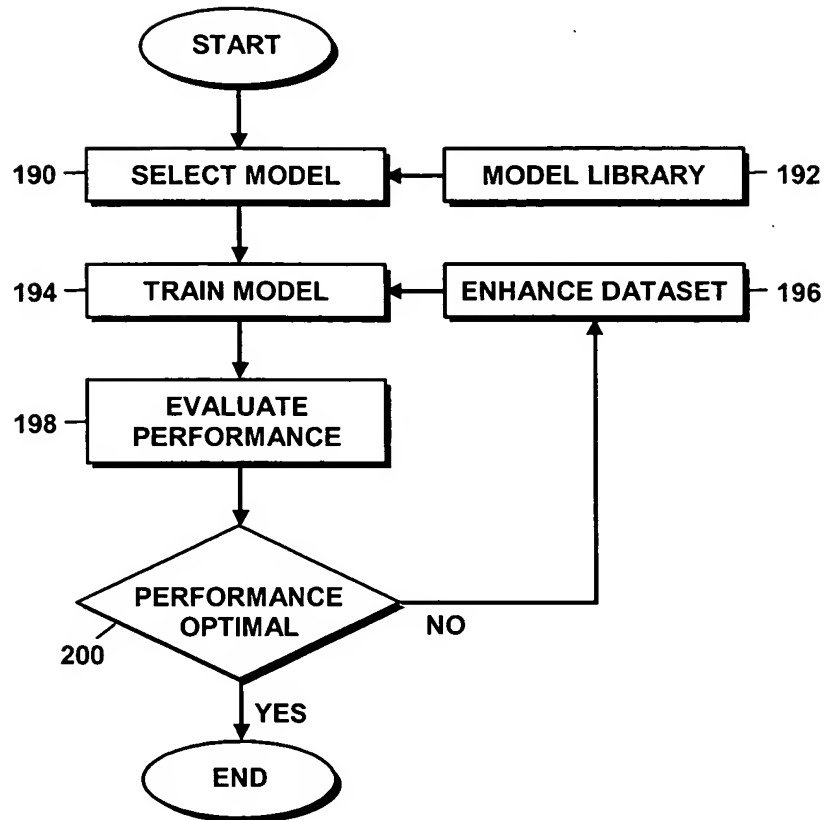
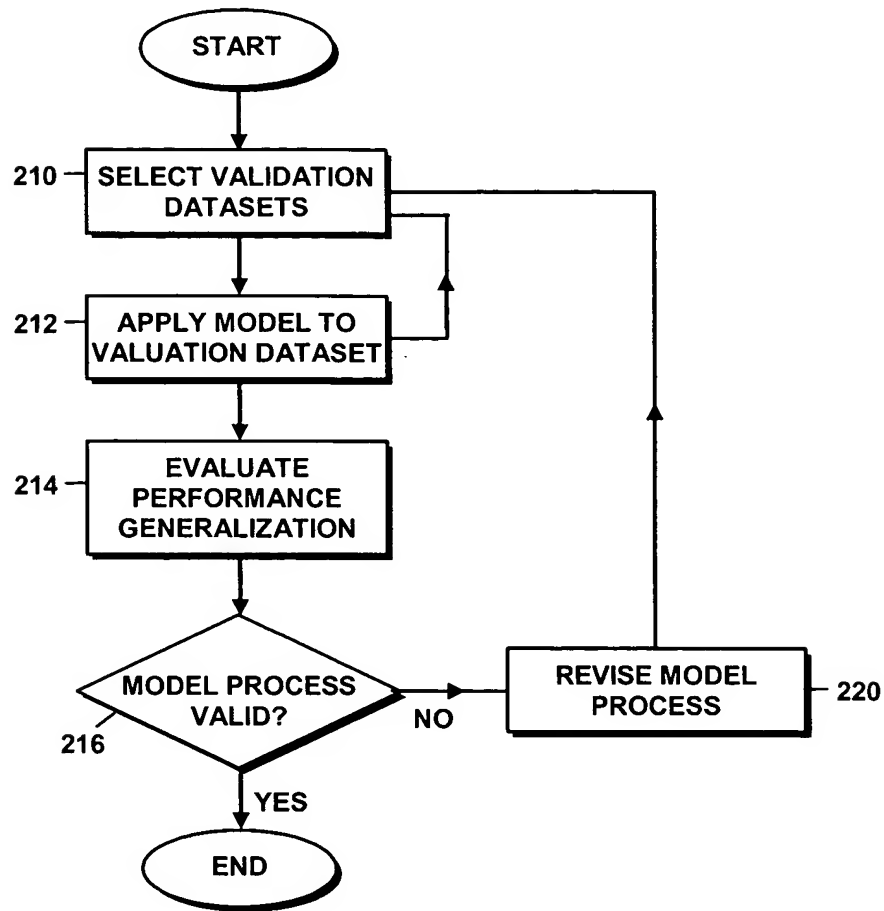


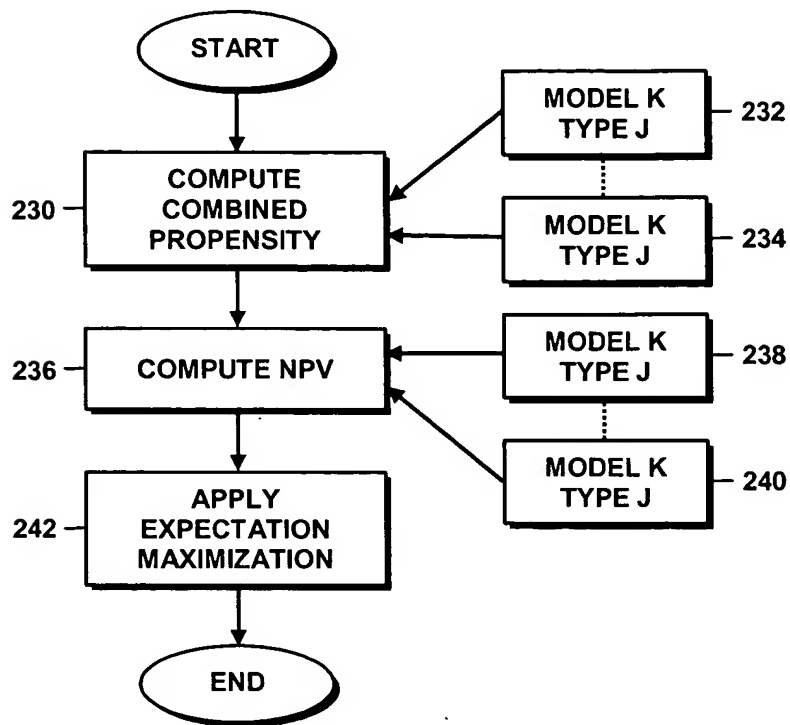
FIG. 10



**FIG. 11**



**FIG. 12**

**FIG. 13**

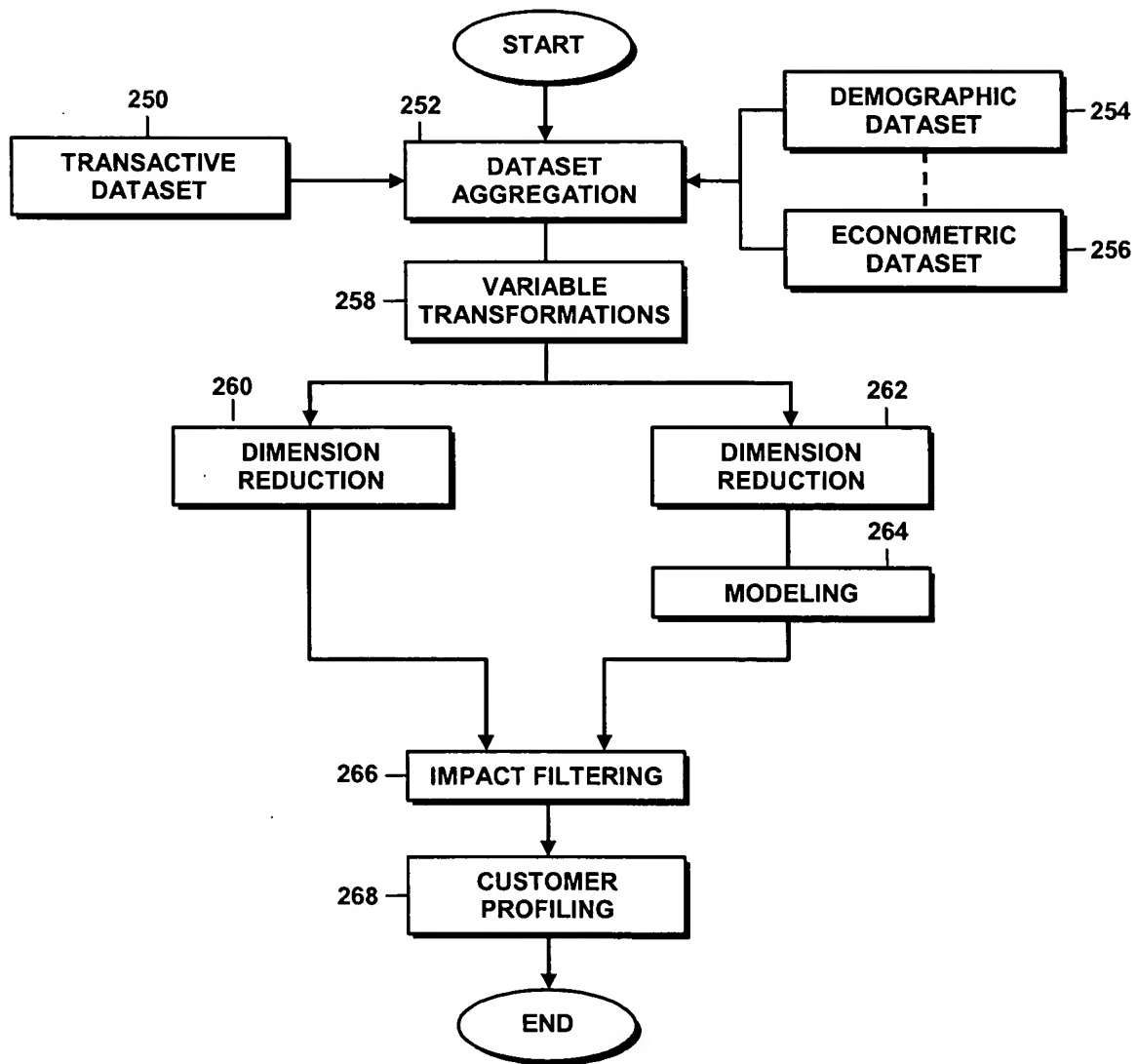
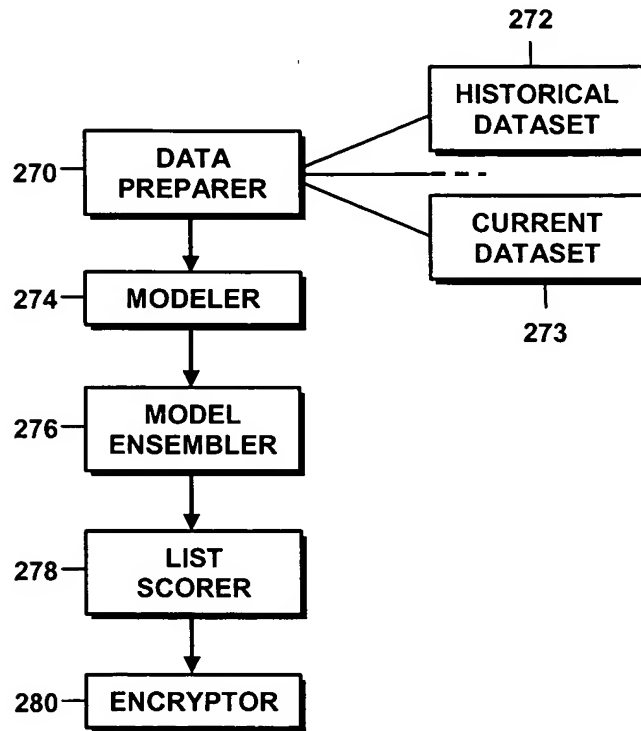


FIG. 14

**FIG. 15**



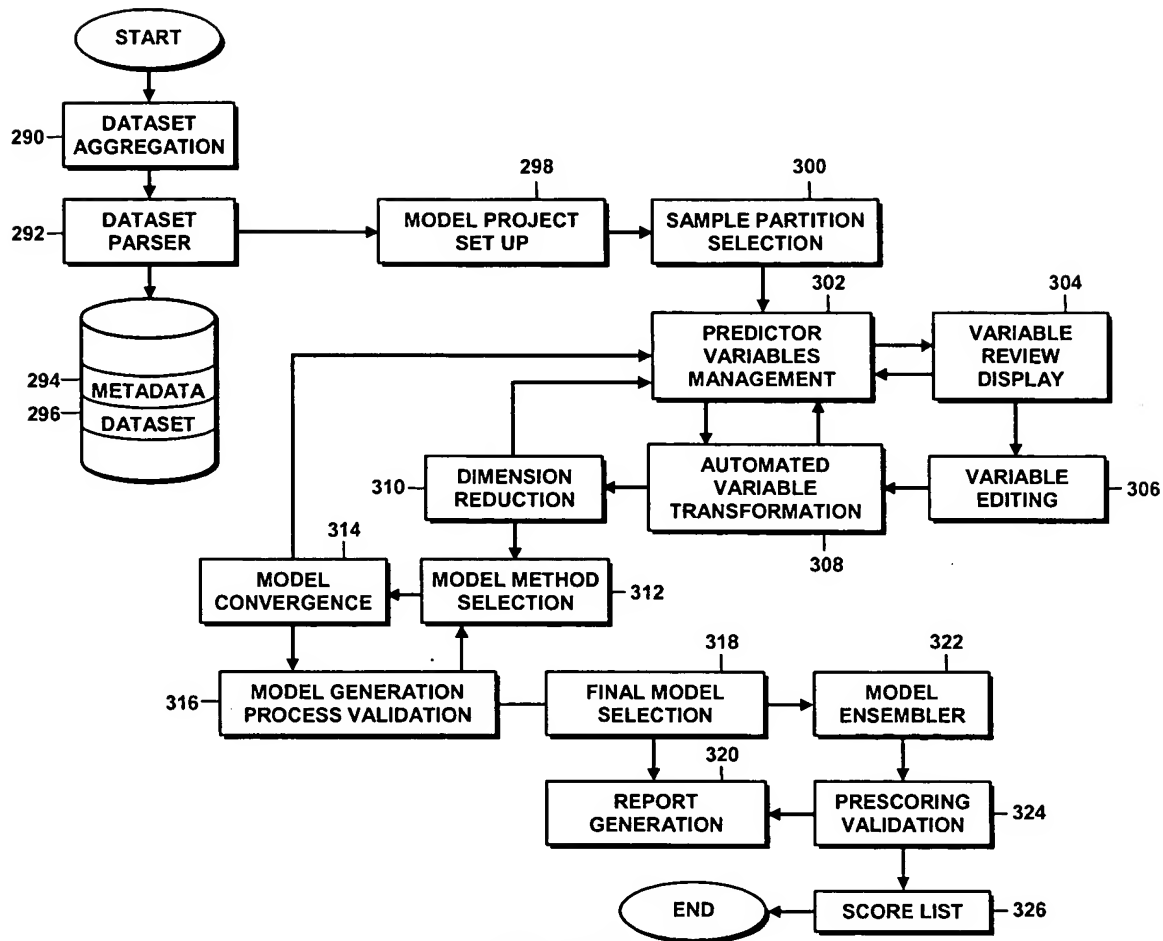


FIG. 16

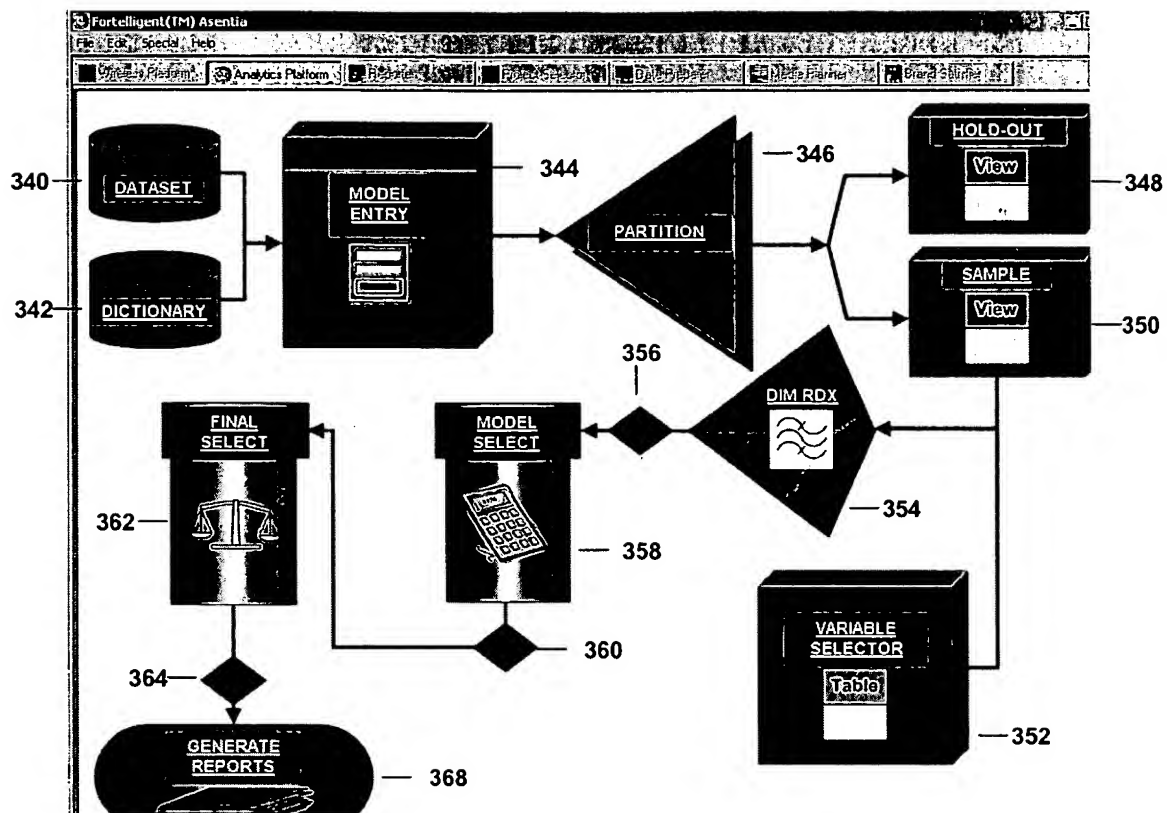


FIG. 17

**Model Project Entry Form**

Model Name:  Model Type:

Model Project Goal or Scope:

370 Browse Datasource:

372 Browse Dictionary:

Dependent Variable (Y):  374

Candidate Model Properties

Success criterion (C >):

Success criterion (KS >):

Model Constraints

Penetration Depth (%):

☒ Monotone Lift Required

☒ Impute Missing Values

Model Regressor Variables

Variable	Variable Description
CustomerID	Identification Number for Customer
Current_purchase	Made a purchase in current campaign
Recent_purchase	Recently purchased
Recently_contacted	Contacted within last 8 months
Very_recently_contacted	Contacted within last 30 days
Prior_contact_before_purchase1	Contacted before purchase of first kind
Prior_contact_before_purchase2	Contacted before purchase of second kind
Prior_purchase1	Purchase of first kind in recent campaign
Prior_purchase2	Purchase of second kind in recent campaign
No_recent_purchase1	No purchase of first kind in recent campaign
Regional_group1	located in Zone 1

376 Submit

FIG. 18A

DataDictionary : Table				
	Variable	Variable Type	Variable Description	Variable Definition
	CustomerID	N	Identification Number for Customer	CustomerID
	Current_purchase	N	Made a purchase in current campaign	Current_purchase
	Recent_purchase	N	Recently purchased	Recent_purchase
	Recently_contacted	N	Contacted within last 8 months	Recently_contacted
	Very_recently_contacted	N	Contacted within last 30 days	Very_recently_contacted
				Status
	CustomerID			XP
	Current_purchase			P
	Recent_purchase			P
	Recently_contacted			P
	Very_recently_contacted			P

FIG. 18B

Predictor Variables Palette

Excluded Constructed Variables

→

←

Predictor Variables

Recent\_purchase  
Recently\_contacted  
Prior\_contact\_before\_purchas  
Prior\_contact\_before\_purchas  
Prior\_purchase1  
Prior\_purchase2  
No\_recent\_purchase1  
Regional\_group6

Excluded Primary Variables

CustomerID

Current\_purchase  
Very\_recently\_contacted  
Regional\_group1  
Regional\_group2  
Regional\_group3  
Regional\_group4  
Regional\_group5

←

→

Variable Editor

Variable	Definition
Recent_purchase	Recent_purchase
Recently purchased	
Description	
<div>Edit</div> <div>Save</div> <div>Clear</div>	<div>Log</div> <div>Square</div> <div>SQRT</div> <div>(X)</div> <div>frac(x)</div>
Analyze Predictor Variables	<div>Miss</div> <div>Optbin</div> <div>Sum</div> <div>Spline</div> <div>Aggregate</div>

☒ Interaction Tree: Buyers vs. Non-buyers

Reduce Dimensions

Reconsider Model

FIG. 19.

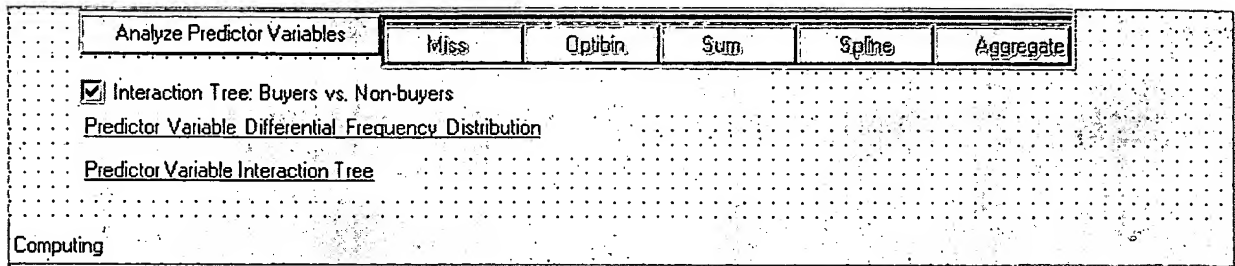


FIG. 20A

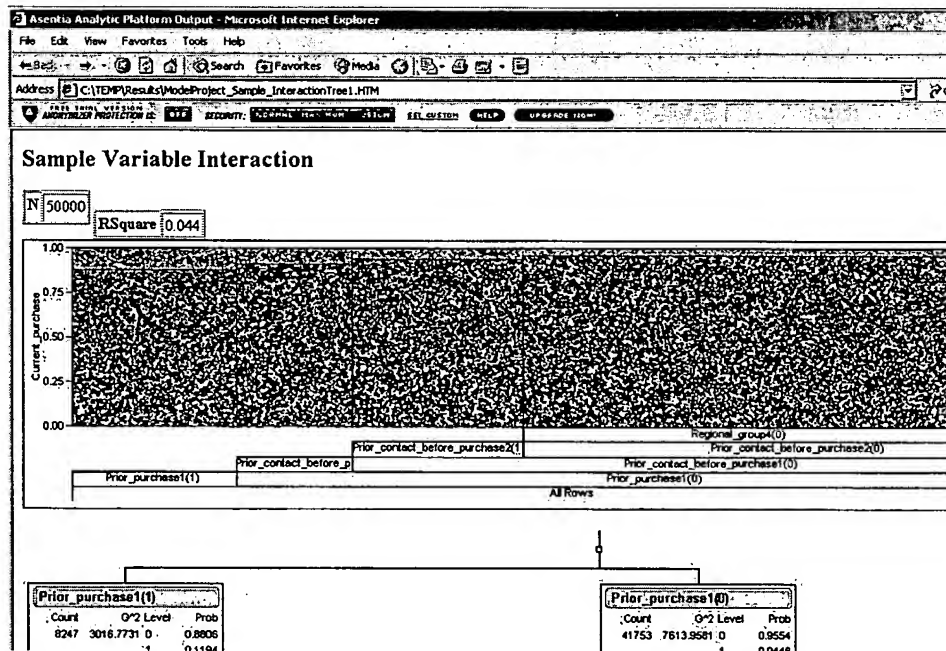


FIG. 20B

Variable Editor	
Variable	Definition
Recent_purchase	Recent_purchase
Description	
Recently purchased	
<div>Edit</div> <div>Save</div> <div>Clear</div>	<div>Log</div> <div>Square</div> <div>SQRT</div> <div>(X)</div> <div>If a &lt; x...</div>
<div>Miss</div> <div>Optibin</div> <div>Sum</div>	

FIG. 21A

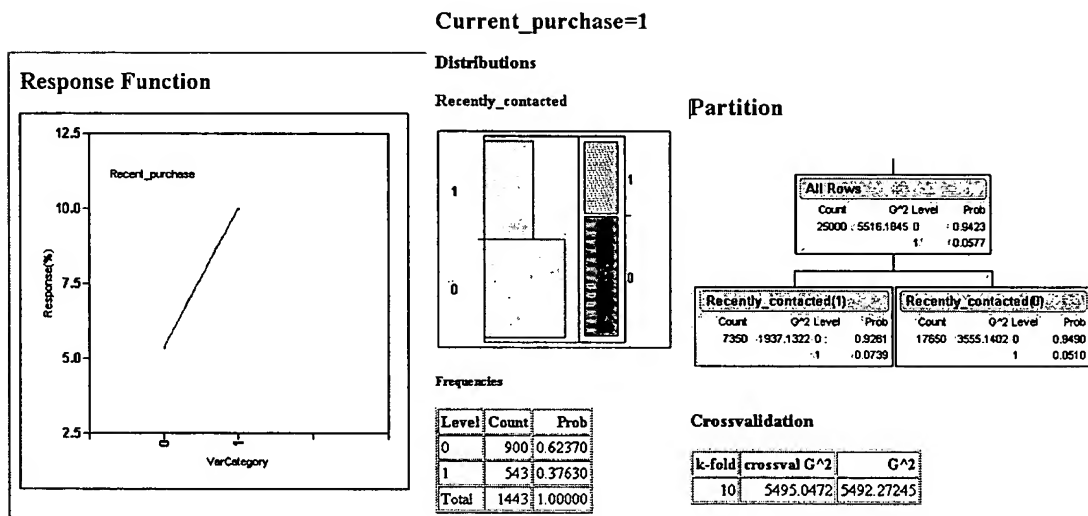


FIG. 21B

Variable Editor	
Variable	Definition
Prior_purchase1_1	Prior_purchase1*
Description	
Purchase of first kind in recent campaign	
<div>Edit</div> <div>Save</div> <div>Clear</div>	<div>Log</div> <div>Square</div> <div>SQRT</div> <div>(X)</div>

FIG. 21C

Variable Editor	
Variable	Definition
Prior_purchase1_1	Prior_purchase1 * Prior_contact_before_purchase1
Description	
Purchase of first kind in recent campaign AND Contacted before purchase of first kind	
<div> <div>Edit</div> <div>Save</div> <div>Clear</div> <div>Log</div> <div>Square</div> <div>SQRT</div> <div>(X)</div> </div>	

FIG. 21D

The screenshot shows the 'Variable Editor' dialog box. It has two main panes. The left pane lists variables: 'regional\_group4', 'Regional\_group5', 'Regional\_group6', and 'Prior\_purchase1\_I'. The right pane shows the definition for 'Prior\_purchase1\_I' as 'Prior\_purchase1 \* Prior\_contact\_before\_purchase1'. Below the panes is a 'Description' field containing 'Purchase of first kind in recent campaign AND Contacted before purchase of first kind'. At the bottom are buttons for 'Edit', 'Save', 'Clear', 'Log', 'Square', 'SORT', and '(X)'. To the right of the dialog are buttons for 'Revisit Reduction' and 'Cancel'.

Variable Editor	
<b>Variable</b>	<b>Definition</b>
Prior_purchase1_I	Prior_purchase1 * Prior_contact_before_purchase1
<b>Description</b>	
Purchase of first kind in recent campaign AND Contacted before purchase of first kind	
Edit	Save
Clear	Log
Square	SORT
(X)	

FIG. 21E

**Dimension Reduction Palette**

Sparsely Populated Variables

☒ Exclude variables fewer observations less than % (Default is 5%)

Forward Stepwise OLS  $(X_i, X_j^*X_k, X^*+Z, (X^*+Z)^*Z)$

☒ Set Cut-off for Main Effects (Default is 0.05)

☒ Set Cut-off for Non-linear Interaction (Default is 0.05)

☒ Set Cut-off for Summation (Default is 0.05)

☒ Set Cut-off for Summation (Default is 0.05)

Number of Predictor Variables reduced to: 12

Reduce

Advance to Modeling

Cancel

Review Predictors

FIG. 22



**Model Selection Palette**

**Methods**

☐ Stepwise Logistic Regression

**Logit Regression Method**

☒ Maximum Likelihood

☐ Ordinary Least Squares

**Logit Regression Mode**

☒ Mixed

☐ Forward

☐ Backward

**Significance Levels for Predictor Variable Status Change**

Entry  Retain

☐ Stepwise, Linear Discriminant Analysis (General Location Model)

**LDA Regression Assumptions**

☐ Equal Variances

☐ Box Test

☐ Normal Distribution

**LDA Regression Mode**

☐ Mixed

☐ Forward

☐ Backward

**Significance Levels for Predictor Variable Status Change**

Entry  Retain

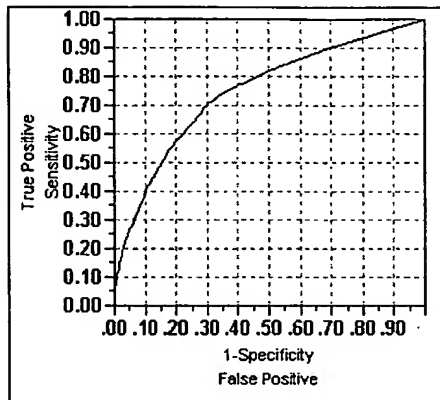
☒ Test for Model Variable Persistence

**Significance Levels for Predictor Variable Status Change**

Entry  Retain

FIG. 23A

### Receiver Operating Characteristic



Using Current\_Purchase='1' to be the positive level  
Area Under Curve =  
0.74906

### Model Gains for Sample

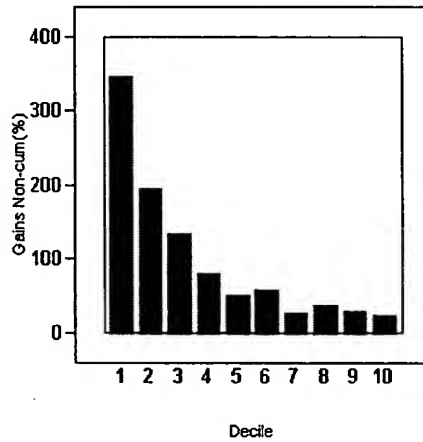


FIG. 23B

### Persistence of Model for Key Predictor Variables

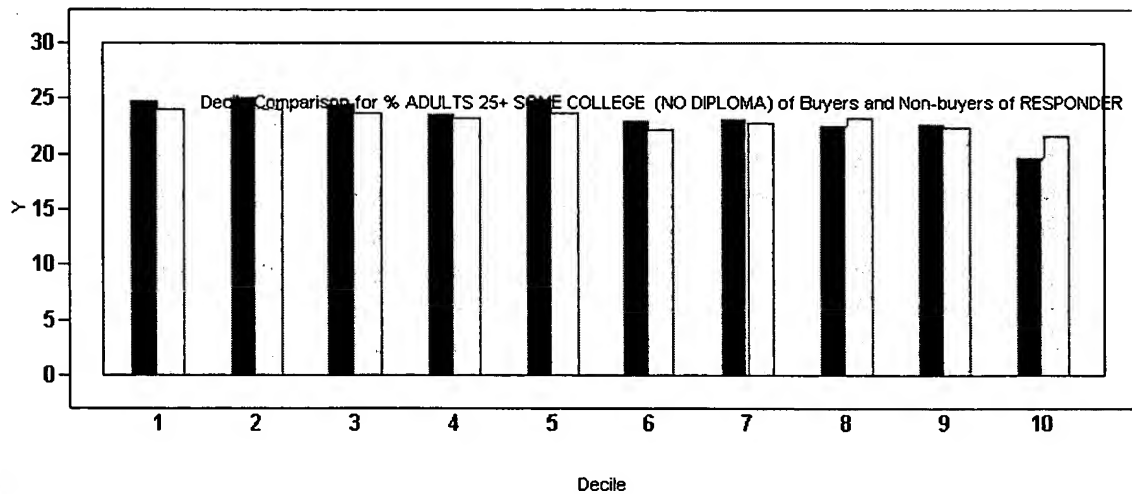


FIG. 23C

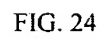


FIG. 24

**Final Model Candidate Selection**

Target Goals for Final Model

Model Project Target c-Statistic: 0.70  
Model Project Target KS-Statistic: 0.25  
Model Project Anticipated Penetration Depth: 40  
Model Project Monotone Lift Expected: Yes

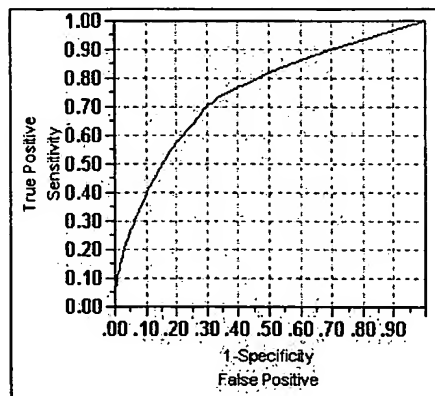
Select Validation Dataset

☐ Preselected Sample  
☐ Preselected Sample Complement  
☐ Full Development Dataset (100%)  
☒ Random Sample (%) 0

☒ Model Statistics for Sample vs Validation  
☒ Cumulative Lift of Model versus Baseline  
☒ Non-Cumulative Lift of Model versus Baseline

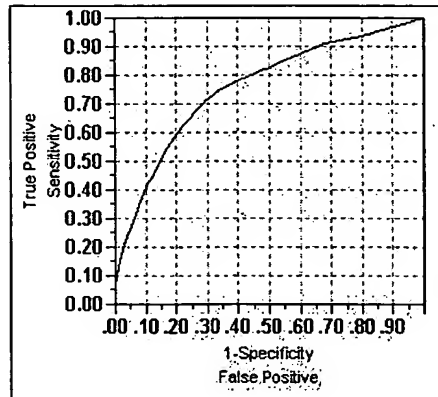
Validate Model  
Finish Modeling  
Reconsider Model  
Review Predictors

FIG. 25A

**Receiver Operating Characteristic**

Using Current\_Purchase='1' to be the positive level  
Area Under Curve =  
0.74906

FIG. 25B

**Receiver Operating Characteristic**

Using Current\_Purchase='1' to be the positive level  
Area Under Curve =  
0.75884

FIG. 25C

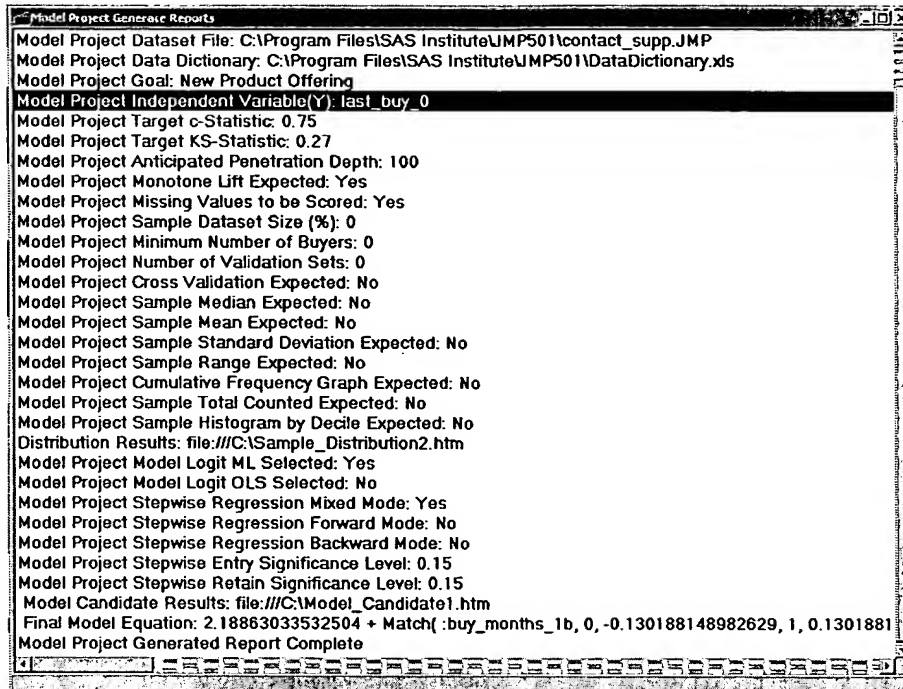
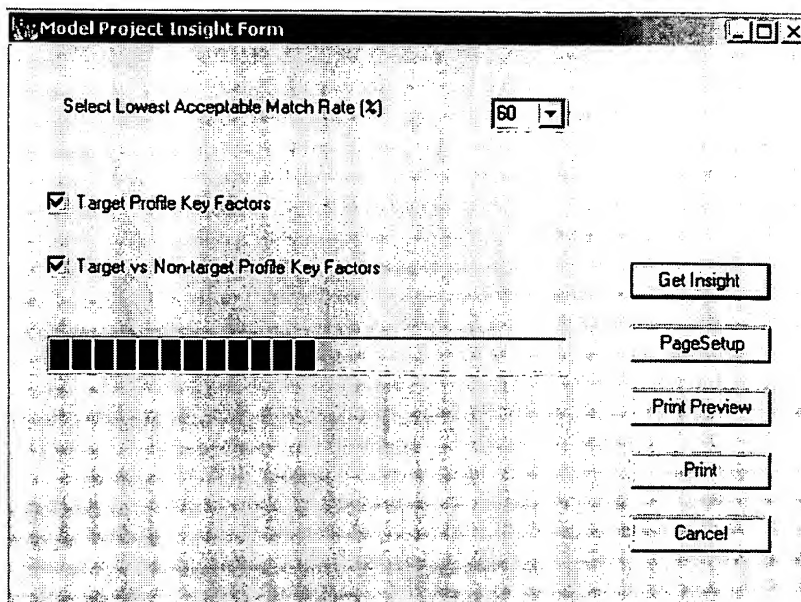
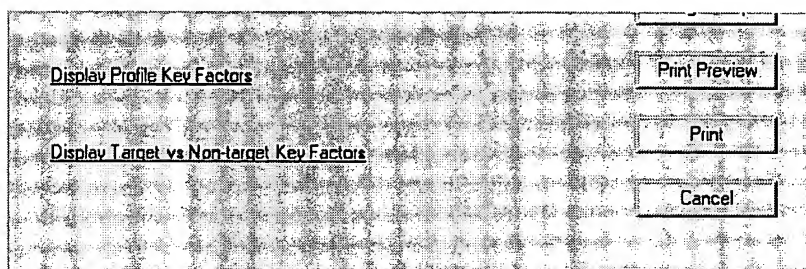


FIG. 26



The screenshot shows a window titled "Model Project Insight Form". At the top, there is a label "Select Lowest Acceptable Match Rate (%)" followed by a dropdown menu showing the value "60". Below this, there are two checked checkboxes: "Target Profile Key Factors" and "Target vs. Non-target Profile Key Factors". Under the second checkbox, there is a horizontal bar chart consisting of ten black rectangular segments of varying heights. On the right side of the form, there is a vertical stack of five buttons: "Get Insight", "PageSetup", "Print Preview", "Print", and "Cancel".

FIG. 27A



The screenshot shows a dialog box with two sections. The first section is labeled "Display Profile Key Factors" and the second is labeled "Display Target vs Non-target Key Factors". Both sections have a large, empty rectangular area below their respective labels. On the right side of the dialog box, there is a vertical stack of three buttons: "Print Preview", "Print", and "Cancel".

FIG. 27B



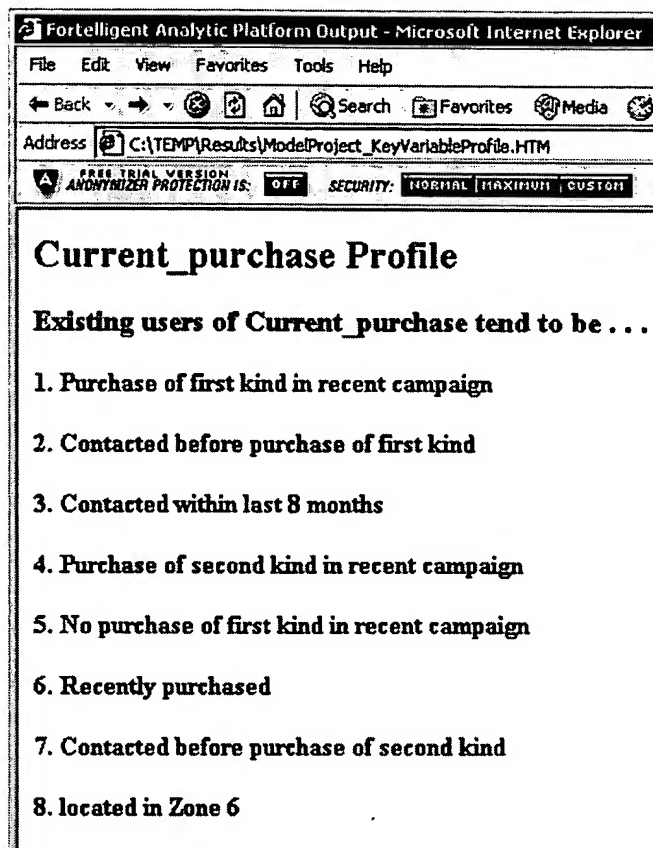


FIG. 27C

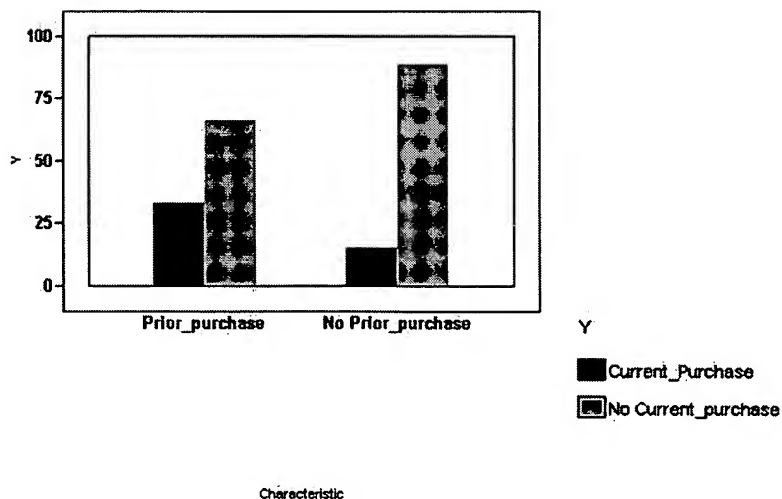


FIG. 27D